

What is claimed is:

1. An apparatus for driving an occupant-protecting airbag device mounted on a vehicle, the airbag device including an airbag and a squib to which power is supplied and the squib being deployed by igniting the squib, the apparatus comprising:

a plurality of sensors each sensing a physical quantity acting on the vehicle to output an analog signal indicative of the physical quantity;

a plurality of A/D (analog to digital) converters each electrically connected to at least one of the plurality of sensors to cause each A/D converter to perform an A/D conversion on the signal;

a determination unit configured to use the signal converted by each of the A/D converters to determine whether or not the airbag should be deployed; and

an ignition circuit configured to cause the squib to ignite to deploy the airbag when the determination unit determines that the airbag should be deployed.

2. The apparatus according to claim 1, wherein the plurality of sensors and the number of A/D converters are the same in number.

3. The apparatus according to claim 2, wherein an output of each of the plurality of sensors is electrically connected to an input of each of the plurality of A/D converters.

4. The apparatus according to claim 2, wherein output terminals of the plurality of sensors are electrically connected, in parallel to each other, to the determination unit through a plurality of transmission lines and each of the plurality of A/D converters is connected to each of the plurality of transmission lines to intervene between each sensor and the determination unit.

5. An apparatus for driving an occupant-protecting airbag device mounted on a vehicle, the airbag device including an airbag and a squib to which power is supplied and the squib being deployed by igniting the squib, the apparatus comprising:

a plurality of sensors each sensing a physical quantity acting on the vehicle to output an analog signal indicative of the physical quantity;

5 a plurality of A/D (analog to digital) converters each receiving, in parallel to each other, the signal outputted from at least one of the plurality of sensors and each performing an A/D conversion on the received signal; and

a microcomputer configured to receive the signal converted by the A/D converters to control the ignition of the squib based on the received signal from each of the plurality of A/D converters.

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6. An apparatus for driving an occupant-protecting airbag device mounted on a vehicle, the airbag device including an airbag and a squib to which power is supplied and the squib being deployed by igniting the squib, the apparatus comprising:

15 a plurality of sensors each sensing a physical quantity acting on the vehicle to output an analog signal indicative of the physical quantity;

a comparator making a comparison between at least one of the signals outputted from the plurality of sensors and a reference signal so that a digital signal corresponding to the at least one signal is produced;

20 a digital-signal input port configured to receive the digital signal produced by the comparator;

an A/D (analog to digital) converter receiving the signal outputted from at least one of the plurality of sensors to cause the A/D converter to perform an A/D conversion on the signal;

25 a determination unit configured to use both of the signal converted by the A/D converter and the digital signal received by the digital-signal input port to determine whether or not the airbag should be deployed; and

30 an ignition circuit configured to cause the squib to ignite to deploy the airbag when the determination unit determines that the airbag should be deployed.

7. The apparatus according to claim 6, wherein the digital signal produced by the comparator is an ON/OFF signal consisting of high level signals and low level signals.

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8. The apparatus according to claim 6, wherein the comparator is placed to receive the signals outputted from a part of the plurality of sensors and the A/D converter is placed to receive the signal outputted from a remaining of the plurality of sensors.

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